file and the Examiner did not note that two pages were missing from the Amendment. During the telephone call, it was agreed that Schnittgrund would file the instant Amendment and would deal by means of this Amendment with the Specification objections that the missing two pages created.

Claims 1-12 are rejected under 35 USC 103(a) as being unpatentable over Chang.

Claim 13 is rejected under 35 USC 103(a) as being unpatentable over Chang in view of Cusano.

Claims 1-12 are rejected under 35 USC 103(a) as being unpatentable over the admitted prior art (hereinafter referred to as Jiang) in view of Chang.

Informalities Are Addressed

The Specification objections have been addressed herein. All of these issues were addressed on pages 10 and 11 of the October 3, 2005 Amendment, neither of which were transmitted with the Amendment when initially filed.

Claims Rejections under 35 USC §103

Chang Fails to Teach the Invention

Applicants appreciate the detailed analysis presented in the Office Action. Applicants' reading of the teachings of Chang do not reach the conclusion presented in the Office Action, even though Chang discusses stainless steel, titanium and titanium alloy, and a Ni/Ti/Ni brazing composite. Applicants argue that Chang fails to teach the invention that is disclosed by Applicants. The Office Action admits [at page 3, last paragraph] that, "Chang does not exemplify an embodiment wherein a component assembly comprises a stainless steel part bonded to a titanium part via a filler layer comprising nickel and titanium foils." The discussion could end here, but Applicant reiterates the certain and admitted differences between the teachings of Chang and those of Applicants in the paragraphs that follow.

Looking first at Chang col 2, lines 38-45, Applicants read the teaching as limited to "a brazing strip or foil" that is metallurgically bonded by a roll bond

process into an integral braze foil. Applicants read the teaching to be the formation of a braze foil that has three layers, specifically, a first metal layer, a second metal layer, and a third titanium layer. The titanium layer is between the first and the second metal layers. This braze foil is roll bonded to be inseparable into its component layers. Later, at col. 6, lines 52-57, for example, Chang teaches that this may be a Ni/Ti/Ni foil.

Chang further teaches, in an example that had not been accomplished [utilizing present tense in the description], [col 6, line 44-col 7, line 5] the roll bonding process formation of a metallurgical bond between the Ni/Ti/Ni braze material and a 316 stainless steel [col 6, lines 52-57]. Applicant understands that Chang then has a completely bonded Ni/Ti/Ni braze material that is integrally bonded to the 316 stainless steel foil as a preform, called "self-brazing materials" by Chang [at col 6, line 53].

At this point, Applicant argues that Chang has not taught Applicant's invention because, in part, there is no titanium part. Further, Chang has an integral stainless steel/braze foil component that has been formed by roll bonding.

Beginning at line 58 the teaching of Chang loses coherency. Chang refers to a "resulting five layer composite" which has not been taught by Chang. Chang has taught a four layer composite consisting of the stainless steel and the braze foil layer, just discussed. Then Chang teaches that an undefined five layer composite is placed between two sheets of a titanium alloy and is then placed in a vacuum furnace for brazing. Applicant can only guess at what the resulting structure would be since the stainless steel self braze strip has four layers, which has not been included in Chang's teaching of bonding two sheets of Ti together in a vacuum furnace. Chang teaches that a resulting structure comprised of two Beta-21 alloy foils is metallurgically sound. Stainless steel is not taught as being involved with this metallurgically sound structure.

In brazing, it is common practice to place a filler material between two metal components that are to be bonded by thermal processing. Chang does not teach this. Applicant suggests that a necessary portion of the example description may be missing from Chang.

Finally, Chang teaches [col 6, line 65-col 7, line 5] a five layer composite that is defined as a "self-brazing Beta-21 material" that is placed in contact with another Beta-21 foil and is brazed.

Applicant does not find a teaching of a stainless steel to titanium part in Chang.

The Office Action [at page 3, last paragraph] avers agreement that Chang does not teach all of the elements of Applicants' invention. Applicants find no motivation in Chang to assume that because the Ni/Ti/Ni braze composite can bond titanium metal to titanium metal by heating to 950C; nor because Chang teaches that Ni/Ti/Ni braze composite can be bonded to stainless steel by roll bonding, that one can conclude that titanium can be bonded to stainless steel by use of the Ni/Ti/Ni foil. The leap is too great of an assumption for a person having ordinary skill in the art.

Most importantly, Chang could have taught stainless steel bonding to titanium, but did not. All of the elements are present in Chang and it is inappropriate to claim that it is obvious to do that which Chang specifically did not do, and did not teach. By not teaching that which the Office Action claims is obvious, Chang avoided and thereby taught away from the "obvious" bonding of stainless to titanium with a laminate therebetween.

It is reasonable to assume that Chang and his co-inventor, Jha are persons "having ordinary skill in the art to which said subject matter pertains". In fact, they have the same objective as the instant inventors, yet Chang does not teach the combination of elements that have been taught and claimed by Applicants. Applicants argue that independent Claim 1 is non-obvious and is allowable over Chang as submitted.

Cusano Objection is Overcome

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chang in view of Cusano.

Cusano teaches the use of particulate preferably in combination with a bonding agent. Cusano also states, "It is, of course, realized by those skilled in the art that not all metals will bond to all substrates. Furthermore, it is known that a

bonding agent which will bond a given metal to a given substrate may not bond that metal to other substrates." [col 3, lines 31-35] A search of Cusano does not find a teaching involving the terms "stainless", "stainless steel", "steel", or "titanium".

The Office Action argues that this is analogous art. If Cusano has the same objective as that of Applicant, if it be construed to be the bonding of two dissimilar metals, then, Cusano does not teach the invention of or any elements of the invention of Applicants. A person "having ordinary skill in the art to which said subject matter pertains," which Cusano and his co-inventors must have to be consistent with the analogous art argument, should have taught more, if it is obvious to combine Cusano with Chang.

Given that there is no motivation to combine Cusano with Chang, especially since Cusano notes the difficulty of selecting bondable metals, Applicants argue that Claim 13 is allowable when combined with Claim 1.

Jiang Objection over Chang

Claims 1-12 are rejected under 35 U.S.C. 103(a0 in view of Jiang. However, as the Office Action notes [page 8], Jiang claims the use of a laminate. The above arguments are equally applicable here in that Chang does not teach bonding stainless steel to titanium, despite clearly teaching stainless steel and titanium separately, as well as the use of a laminate braze material. Chang could have taught stainless steel bonding to titanium, but did not. All of the elements are present in Chang and it is inappropriate to claim that it is obvious to do that which Chang specifically did not do.

Jiang does not make obvious that which Chang did not teach when Chang has all of the elements present and Jiang adds no single additional element that could make obvious that which Chang taught away from.

Applicant argues that claim 1 is therefore allowable as submitted and that the dependent claims are allowable as further limitation on an allowable claim.

In view of all of the foregoing, it is respectfully submitted that the pending claims 1-13 are allowable as amended and in the present application.